

**Deposition Designations for:
SURESH MOOLGAVKAR
May 26, 2009**

Deposition Designation Key

**Arrowood = Arrowood Indem. Co.
f/k/a Royal Indem. Co. (Light Green)**

BNSF = BNSF Railway Co. (Pink)

Certain Plan Objectors “CPO” = Government Employees Insurance Co.; Republic Insurance Co. n/k/a Starr Indemnity and Liability Co.; OneBeacon America Insurance Co.; Seaton Insurance Co.; Fireman’s Fund Insurance Co.; Allianz S.p.A. f/k/a Riunione Adriatica Di Sicurta; and Allianz SE f/k/a Allianz Aktiengesellschaft; Maryland Casualty Co.; Zurich Insurance Co.; and Zurich International (Bermuda) Ltd.; Continental Casualty Co. and Continental Insurance Co. and related subsidiaries and affiliates; Federal Insurance Co.; and AXA Belgium as successor to Royal Belge SA (Orange)

CNA = Continental Cas. Co & Continental Ins. Co. (Red)

**FFIC = Fireman Funds Ins. Co. (Green)
FFIC SC = Fireman Funds Ins. Co. “Surety Claims” (Green)**

GR = Government Employees Ins. Co.; Republic Ins. Co. n/k/a Starr Indemnity and Liability Co.

Libby = Libby Claimants (Black)

OBS = OneBeacon America Ins. Co. and Seaton Ins. Co. (Brown)

PP = Plan Proponents (Blue)

Montana = State of Montana (Magenta)

Travelers = Travelers Cas. and Surety Cos. (Purple)

UCC & BLG = Unsecured Creditors’ Committee & Bank Lenders Group (Lavender)

**AFNE = Assume Fact Not in
Evidence
AO = Attorney Objection
BE = Best Evidence
Cum. = Cumulative
Ctr = Counter Designation
Ctr-Ctr = Counter-Counter
ET = Expert Testimony
F = Foundation
408 = Violation of FRE 408
H = Hearsay
IH - Incomplete Hypothetical**

**L = Leading
LA = Legal Argument
LC = Legal Conclusion
LPK - Lacks Personal Knowledge
LO = Seeking Legal Opinion
NT = Not Testimony
Obj: = Objection
R = Relevance
S = Speculative
UP = Unfairly Prejudicial under Rule 403
V = Vague**

In re: W.R. Grace & Co., Debtor

Dr. Suresh Moolgavkar

Page 1

1 IN THE UNITED STATES BANKRUPTCY COURT

2 FOR THE DISTRICT OF DELAWARE

3
4 In re:) Chapter 11
5)
6 W.R. GRACE & CO., et al.,) Case No. 01-01139 (JKF)
7)
8 Debtors,)

9 DEPOSITION UPON ORAL EXAMINATION

10 OF

11 DR. SURESH MOOLGAVKAR

12
13 Taken at: 500 Union Street

14 Seattle, Washington

15
16
17
18
19
20
21 DATE TAKEN: May 26, 2009

22 REPORTED BY: ELIZABETH PATTERSON HARVEY, RPR, CCR 2731

23
24
25
Buell Realtime Reporting
206 287 9066

In re: W.R. Grace & Co., Debtor

Dr. Suresh Moolgavkar

<p style="text-align: right;">Page 90</p> <p>1 MR. STANSBURY: I want to just make</p> <p>2 one statement for the record, just so we're clear. As</p> <p>3 you and I discussed and my e-mails reflected, those data</p> <p>4 were produced to you separately upon acknowledging the</p> <p>5 protective order. This data is governed by a very</p> <p>6 strict protective order issued through this court, and</p> <p>7 it was only upon your signing the protective order and</p> <p>8 sending the acknowledgment required by the face of the</p> <p>9 protective order that I was able to send that to you. I</p> <p>10 just want to make sure we're clear about that on the</p> <p>11 record.</p> <p>12 MR. HEBERLING: Okay. And let the</p> <p>13 record also show that that was received May 20.</p> <p>14 MR. STANSBURY: Again, I think we</p> <p>15 could go into specifics, but there were multiple times,</p> <p>16 Jon, in which I reminded you that we had not received</p> <p>17 your acknowledgment, which was the prerequisite for</p> <p>18 sending you that data.</p> <p>19 MR. HEBERLING: Well, there's an</p> <p>20 e-mail history on that. That's not correct.</p> <p>21 MR. STANSBURY: There is.</p> <p>22 MR. HEBERLING: You reminded me once.</p> <p>23 And apparently the first time I sent it, it was lost in</p> <p>24 the mail. So...(Pause.)</p> <p>25 Q (By Mr. Heberling) The last sentence in that</p>	<p style="text-align: right;">Page 92</p> <p>1 Q And can you give us a rough idea of the</p> <p>2 spectrum of potencies under Hodgson and Darnton?</p> <p>3 A Well--</p> <p>4 Q Like crocidolite was 500 times chrysotile and</p> <p>5 amosite was something else?</p> <p>6 A No. Do you have Hodgson and Darnton?</p> <p>7 Q Not here, no.</p> <p>8 A I'd have to look at it. And you could do that</p> <p>9 too. You could go back and look at Table 1 in Hodgson</p> <p>10 and Darnton and look at the potencies for mesothelioma</p> <p>11 that's reported and come to your own conclusions</p> <p>12 regarding that.</p> <p>13 Q And likewise there's a table in Berman and</p> <p>14 Crump that does the same thing?</p> <p>15 A There's a table, I see here Table 4 of Berman</p> <p>16 and Crump. And you can look at that.</p> <p>17 Q And do you agree with this Table 1 of Hodgson</p> <p>18 and Darnton?</p> <p>19 A It's not a matter of agreement or</p> <p>20 disagreement. It's just a way of-- that Hodgson and</p> <p>21 Darnton used to estimate the potency for specific</p> <p>22 cohorts or specific fiber times.</p> <p>23 And I've used exactly the same method in Libby</p> <p>24 just to compare apples with apples. So I compared the</p> <p>25 Hodgson and Darnton index for Libby with the Hodgson and</p>
<p style="text-align: right;">Page 91</p> <p>1 paragraph, you say, "We can see the estimate of Libby</p> <p>2 potency lies in the middle of the range for asbestos</p> <p>3 fibers, and is much smaller than the potency for</p> <p>4 crocidolite, and somewhat smaller than the potency for</p> <p>5 amosite. Do you see that?</p> <p>6 A Yes.</p> <p>7 Q And you've cited Berman and Crump.</p> <p>8 And I believe Hodgson and Darnton also did</p> <p>9 these calculations?</p> <p>10 A Well, the Hodgson and Darnton index is</p> <p>11 different from the potencies reported in Berman and</p> <p>12 Crump.</p> <p>13 And let me explain the difference to you.</p> <p>14 Berman and Crump used the method, the statistical model</p> <p>15 that was used by EPA and by Nicholson in 1986. And that</p> <p>16 was based on some work done by Julian Peto somewhat</p> <p>17 earlier. So they used one form of a statistical model</p> <p>18 to look at mesothelioma incidents in a cohort exposed to</p> <p>19 asbestos.</p> <p>20 Hodgson and Darnton used quite a different</p> <p>21 approach. So their approach is not directly comparable</p> <p>22 to the Berman and Crump approach.</p> <p>23 However, you can use both approaches to</p> <p>24 estimate the potency of Libby fiber and see where in the</p> <p>25 spectrum of potencies the Libby fiber potency lies.</p>	<p style="text-align: right;">Page 93</p> <p>1 Carton indices for the other fibers.</p> <p>2 And I compared the Berman and Crump index, for</p> <p>3 lack of a better name, with the Berman and Crump indices</p> <p>4 for the other fibers.</p> <p>5 Q Okay. And so did you consider Hodgson and</p> <p>6 Darnton's index of relative potencies reliable?</p> <p>7 A Well, it's reliable in that it gives you a way</p> <p>8 to order the potencies of the various fibers.</p> <p>9 Q And have you relied upon that in entering your</p> <p>10 various opinions?</p> <p>11 A Well, I've relied on that to say that Libby</p> <p>12 fiber is not any more toxic than other asbestos fibers.</p> <p>13 In fact, if you compare the potencies with</p> <p>14 others reported in Hodgson and Darnton, Libby fiber lies</p> <p>15 somewhere right in the middle. It's considerably less</p> <p>16 potent than crocidolite.</p> <p>17 Q And less potent also than amosite?</p> <p>18 A Perhaps also a little less potent than</p> <p>19 amosite.</p> <p>20 Q And more potent than chrysotile?</p> <p>21 A And more potent than chrysotile.</p> <p>22 Q By what factor was it more potent than</p> <p>23 chrysotile?</p> <p>24 A I don't recall. I'd have to go back to</p> <p>25 Hodgson and Darnton to look at the table.</p>

PP
Obj:
R; BE;
F

24 (Pages 90 to 93)

Buell Realtime Reporting
206 287 9066

In re: W.R. Grace & Co., Debtor

Dr. Suresh Moolgavkar

Libby

PP Obj:
2; 85; F Page 94

1 Q Is it fair to say that all the amphiboles were
2 significantly more potent than the chrysotile?
3 A Well, it depends on which amphibole. This is
4 a little less potent than amosite. And you know, you'd
5 have to go to the table and take a look.
6 Q Maybe I didn't make my question clear. I was
7 asking whether it was your observation that all the
8 amphiboles were significantly more potent in the potency
9 factor than-- for causing, let's say lung cancer first,
10 than was chrysotile?
11 A For lung cancer, that's not clear at all,
12 because there's the South Carolina chrysotile cohort,
13 which is has pretty high rates of lung cancer.
14 So the relative potencies of amphibole vs.
15 chrysotile for lung cancer, I think that is still fairly
16 hotly debated. And I don't think that the difference in
17 potencies is all that huge.
18 For mesothelioma, the amphiboles are
19 considerably more potent than chrysotile.
20 Q And what about for fibrogenicity?
21 A I don't see any data on that.
22 Q And did you consider the Berman and Crump
23 potency factor as reliable?
24 A Well, they apply a different method than
25 Hodgson and Darnton do, as I said. And to the extent

Page 96

1 have been identified from Libby, Montana." Do you see
2 that?
3 A Yes.
4 Q Okay. Then the next sentence you say, you're
5 quoting still, "Eleven cases not previously reported are
6 the subject of this report." Do you see that?
7 A Yes.
8 Q So what does "31 cases identified" mean to
9 you?
10 A Well, 31 cases have been identified. I mean,
11 it's a perfectly clear word in English.
12 All I was trying to point out here is I'm not
13 sure whether those 11 cases are included in the 31 cases
14 or whether they're in addition to the 31 cases. That
15 was not clear from the abstract.
16 Q What does "reported" mean to you?
17 A I'm sure it means exactly what it means to
18 you.
19 Q Does it mean reported in the literature?
20 A Not necessarily.
21 Q When doctors speak of reported cases, do
22 they-- doesn't that usually mean they've been reported
23 in the literature?
24 A "Reported" is a perfectly good English word
25 and is used in various contexts by various people.

Libby

Page 95

Page 97

1 that they reflect their analyses of the different
2 cohorts, yes, they are reliable.
3 Q And you would rely, in discussing this matter,
4 making a presentation to a group, say, you would rely on
5 Hodgson and Darnton and you would also rely on Berman
6 and Crump in discussing potency factors?
7 A Would I would say is that there are these two
8 different approaches to look at exposure response
9 relationships, one developed by Berman and Crump that
10 goes back many, many years to Julian Peto; and then
11 there's this other method developed in 2000 by Hodgson
12 and Darnton. And here are the results by applying these
13 two methods.
14 And then if I were asked which particular
15 method do you prefer, I would have to say that I prefer
16 the Berman and Crump approach.
17 Q But nevertheless, you consider the Hodgson and
18 Darnton approach valid; it's just not as good as Berman
19 and Crump?
20 A Well, it's just another approach. I think
21 it's valid. I just prefer the Berman and Crump
22 approach.
23 Q Then in the last paragraph on page 5, you're
24 quoting from the Whitehouse 2008 paper, "31 cases of
25 mesothelioma resulting from exposure to Libby asbestos

1 Q So that implied to you that there were 42
2 cases of mesothelioma because somehow the 31 should be
3 added to the 11?
4 A I said that would seem to imply. All that
5 means is that I didn't quite understand what Dr.
6 Whitehouse was trying to say.
7 Q And in the Whitehouse report, did you note
8 that 31 cases of mesothelioma are verified, Exhibit 9?
9 A Yes. I think-- in his Exhibit 9 I say he
10 lists 34 cases of mesothelioma.
11 Q Did you notice in the 34 cases three were not
12 verified?
13 A That could be the explanation.
14 Q Did you notice that earlier when you were
15 writing this report and talked about 34 cases, did you
16 notice that only 31 had been verified?
17 A Well, obviously not, because I said 34 cases
18 in my report.
19 Q So the statement of 34 as you presented it
20 would be an error?
21 A Well, it's what I would call a
22 misunderstanding. And I think it's a misunderstanding
23 rising from the fact that Dr. Whitehouse's report and
24 his appendix material is not particularly clear. It
25 does not make it easy to read.

25 (Pages 94 to 97)

Buell Realtime Reporting
206 287 9066